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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/619,442	07/19/2000	Alberto Pique	N.C.79.834	1870

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EXAMINER

FULLER, ERIC B

ART UNIT

PAPER NUMBER

1762

DATE MAILED: 12/05/2002

8

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/619,442

Applicant(s)

PIQUE ET AL.

Examiner

Eric B Fuller

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-- Th MAILING DATE of this communication appears on the cover sheet with the correspond nc address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 17 September 2002.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-26 is/are pending in the application.
- 4a) Of the above claim(s) 1-14 and 20-25 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 15-19 and 26 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 3.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

DETAILED ACTION

Election/Restrictions

Applicant's election with traverse of Group II, species 1 (claims 15-19 and 26), in Paper No. 7 is acknowledged. The traversal is on the grounds that all species would fall within the same subclass, thus allowing them all to be searched without an undue burden on the examiner. This is not found persuasive because although the searches for the two claimed inventions may be similar, there would be a burden due to the different issues that arrive during the prosecution of claims drawn to transferring and transforming certain metal-organics mixed with metal versus claims drawn to transferring and transforming purely metal-organic materials or other types of metal-organic materials mixed with metal oxides and vice-versa. For example, the Axtell, III et al. (US 6,238,847 B1) is sufficient for reading on limitations for transforming mixtures of metals and certain claimed types of metal-organics, but may not be sufficient in reading on limitations drawn to a hydrated metal alkoxide.

The requirement is still deemed proper and is therefore made FINAL. Claims 1-14 and 20-25 have been withdrawn from further consideration.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the

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invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 15, 17-19, and 26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Axtell, III et al. (US 6,238,847 B1) in view of Joyce, Jr. et al. (US 5,292,559).

Axtell teaches a process of laser marking substrates (abstract). This adherent marking material reads on the applicant's "material of interest" (column 9, lines 20-35). It is taught that the method chosen to apply the source material to the substrate is not pertinent to the invention and that any known method may be used with the expectation of success (column 7, lines 35-57). A laser then irradiates the source material in defined locations in order to form a permanent marking, and then the remainder material is washed off (column 7, lines 58-67). The source material may be metal-organics such as acetylacetonates of transition metals or neodecanoic acids of transition metals; metals such as copper, silver, or gold; or mixtures thereof (table 1). The reference fails to explicitly teach the method of applying the source material to the substrate.

However, Joyce teaches a method of transferring materials, such as gold, to substrates by the use of a pulsed laser (abstract). The laser is directed through a laser transparent support and strikes the coating at a defined location with sufficient energy to cause the source material to be removed from the surface of the support at the defined location (column 2, lines 25-40). The source material is then deposited on the substrate in a defined location (column 3, lines 30-40). The benefit of this method is that precision of the coating is increased. Therefore, it would have been obvious at the time the

invention was made to a person having ordinary skill in the art to utilize the method of Joyce to coat the substrate of Axtell with the source material. By doing so, waste is reduced, as the high precision coating method requires less material to be washed off.

As to claim 17, neither reference teaches a temperature that the substrate is maintained at. However, it is also not taught to alter it. Therefore, it is the position of the examiner that to use temperatures within the applicant's range, which includes room temperature, would have been obvious.

As to claim 19, to use silver neodecanoate and silver as the marking material would have been obvious, with a reasonable expectation of success, as table 1 of Axtell teaches to use silver and a neodecanoate of a transition metal.

Claim 16 is rejected under 35 U.S.C. 103(a) as being unpatentable over Axtell, III et al. (US 6,238,847 B1) in view of Joyce, Jr. et al. (US 5,292,559) as applied to claim 15 above, and further in view of Baum et al. (US 5,220,044).

Axtell in view of Joyce teach the limitations to claim 15, but fail to teach pretreating the substrate with one of the lasers. However, Baum teaches that to heat the substrate with the laser or to heat the source material in the vicinity of the substrate is equivalent in allowing the source material to reach the transformation temperature while on the substrate (column 3, lines 5-15). Therefore, to use either method would have been equally obvious. To use the method of heating the substrate would read on the applicant's limitation of pretreating with a laser as the substrate is heated to the desired temperature before deposition occurs.

Claims 15, 17-19, and 26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Axtell, III et al. (US 6,238,847 B1) in view of Mayer (US 6,159,832).

Axtell teaches a process of laser marking substrates (abstract). This adherent marking material reads on the applicant's "material of interest" (column 9, lines 20-35). It is taught that the method chosen to apply the source material to the substrate is not pertinent to the invention and that any known method may be used with the expectation of success (column 7, lines 35-57). A laser then irradiates the source material in defined locations in order to form a permanent marking, and then the remainder material is washed off (column 7, lines 58-67). The source material may be metal-organics such as acetylacetonates of transition metals or neodecanoic acids of transition metals; metals such as copper, silver, or gold; or mixtures thereof (table 1). The reference fails to explicitly teach the method of applying the source material to the substrate.

However, Mayer teaches a highly precise method of transferring materials, such as metals, to substrates by the use of a pulsed laser (abstract). The laser is directed through a laser transparent support and strikes the coating at a defined location with sufficient energy to cause the source material to be removed from the surface of the support at the defined location (column 3, lines 1-15). The source material is then deposited on the substrate in a defined location. The benefit of this method is that precision of the coating is increased. Therefore, it would have been obvious at the time the invention was made to a person having ordinary skill in the art to utilize the method

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of Mayer to coat the substrate of Axtell with the source material. By doing so, waste is reduced, as the high precision coating method requires less material to be washed off.

As to claim 17, neither reference teaches a temperature that the substrate is maintained at. However, it is also not taught to alter it. Therefore, it is the position of the examiner that to use temperatures within the applicant's range, which includes room temperature, would have been obvious.

As to claim 19, to use silver neodecanoate and silver as the marking material would have been obvious, with a reasonable expectation of success, as table 1 of Axtell teaches to use silver and a neodecanoate of a transition metal.

Claim 16 is rejected under 35 U.S.C. 103(a) as being unpatentable over Axtell, III et al. (US 6,238,847 B1) in view of Mayer (US 6,159,832) as applied to claim 15 above, and further in view of Baum et al. (US 5,220,044).

Axtell in view of Mayer teach the limitations to claim 15, but fail to teach pretreating the substrate with one of the lasers. However, Baum teaches that to heat the substrate with the laser or to heat the source material in the vicinity of the substrate is equivalent in allowing the source material to reach the transformation temperature while on the substrate (column 3, lines 5-15). Therefore, to use either method would have been equally obvious. To use the method of heating the substrate would read on the applicant's limitation of pretreating with a laser as the substrate is heated to the desired temperature before deposition occurs.

Claims 15, 17-19, and 26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fong et al. (US 5,052,102) in view of Kim et al. (US 4,970,196).

Fong teaches a process of forming a metallic conversion coating of silver neodecanoate onto the surface of a substrate (column 4, lines 5-15). This coating is then converted to metal by the use of a laser (column 4, lines 20-28). It is not taught to apply this coating by the applicant's method.

However, Kim teaches a method of transferring materials, such as metals, ceramics, or virtually any other material, to substrates by the use of a pulsed laser (abstract; column 2, lines 5-10). The laser is directed through a laser transparent support and strikes the coating at a defined location with sufficient energy to cause the source material to be removed from the surface of the support at the defined location (column 2, lines 10-38). The source material is then deposited on the substrate in a defined location (figure 1). The benefit of this method is that precision of the coating is increased. Therefore, it would have been obvious at the time the invention was made to a person having ordinary skill in the art to utilize the method of Kim to coat the substrate of Axtell with the source material. By doing so, precision is increased.

As to claim 17, neither reference teaches a temperature that the substrate is maintained at. However, it is also not taught to alter it. Therefore, it is the position of the examiner that to use temperatures within the applicant's range, which includes room temperature, would have been obvious.

As to claim 19, it is the position of the examiner that it would have been obvious to add silver to the silver neodecanoate solution taught by Fong with a reasonable

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expectation of success. One in the art would expect success because a metal film is the desired resulting product of Fong and Kim teaches the capability of transferring silver (column 2, lines 5-10).

Claim 16 is rejected under 35 U.S.C. 103(a) as being unpatentable over Axtell, III et al. (US 6,238,847 B1) in view of Mayer (US 6,159,832) as applied to claim 15 above, and further in view of Baum et al. (US 5,220,044).

Axtell in view of Mayer teach the limitations to claim 15, but fail to teach pretreating the substrate with one of the lasers. However, Baum teaches that to heat the substrate with the laser or to heat the source material in the vicinity of the substrate is equivalent in allowing the source material to reach the transformation temperature while on the substrate (column 3, lines 5-15). Therefore, to use either method would have been equally obvious. To use the method of heating the substrate would read on the applicant's limitation of pretreating with a laser as the substrate is heated to the desired temperature before deposition occurs.

Double Patenting

The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double

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patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

Claims 15 and 26 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claim 1 of U.S. Patent No. 6,177,151 B1 in view of Axtell, III et al. (US 6,238,847 B1).

The co-assigned U.S. Patent, in claim 1, teaches the transferring method as claimed by the applicant in the present invention. The U.S. Patent fails to teach the second layer performing the transforming step. However, Axtell teaches to use a laser in order to sinter metal onto a substrate such that a strong permanent bond exists (abstract). To use the sintering method of Axtell in combination with the method taught by claim 1 of the prior U.S. Patent would have been obvious at the time the invention was made to a person having ordinary skill in the art. By doing so a stronger, permanent bond is realized.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Addiego et al. (US 5,164,565) is considered pertinent to the applicant's disclosure.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Eric B Fuller whose telephone number is (703) 308-6544. The examiner can normally be reached on Mondays through Thursdays.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Shrive Beck can be reached on (703) 308-2333. The fax phone numbers for the organization where this application or proceeding is assigned are 703 872-9310 for regular communications and (703) 872-9311 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0661.



EBF
November 27, 2002



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